NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool **Arkansas Junction Queen** Formation **Queen** County **Lea**

Initial **xx** Annual Special Date of Test **12-14 to 12-19-62**

Company **Gulf Oil Corporation** Lease **Lea State "EX"** Well No. **1**

Unit **L** Sec. **13** Twp. **18S** Rge. **36E** Purchaser **Warren Petroleum Corp.**

Casing **4½"** Wt. **9.5#** I.D. **4.090** Set at **4500** Perf. **4402** and **xx** To **4415'**

Tubing **2-3/8"** Wt. **4.7#** I.D. **1.995** Set at **4361** Perf. To

Gas Pay: From **4401** To **4419** L **4361** xG **.690** -GL **3009** Bar.Press. **13.2**

Producing Thru: Casing Tubing **X** Type Well **single**

Date of Completion: **11-2-62** Packer **none** Single-Bradenhead-G. G. or G.O. Dual Reservoir Temp.

OBSERVED DATA

Tested Through ~~(Prover)~~ ~~(Choke)~~ (Meter) Type Taps Flange

No.	Flow Data (Prover) (Line) Size	Flow Data (Choke) (Orifice) Size	Flow Data Press. psig	Flow Data Diff. h_w	Flow Data Temp. °F.	Tubing Data Press. psig	Tubing Data Temp. °F.	Casing Data Press. psig	Casing Data Temp. °F.	Duration of Flow Hr.
SI						856		862		72
1.	3	1.250	252	6.2	76	831		838		3
2.	3	1.250	254	16.2	71	793		808		3.5
3.	3	1.250	255	36.0	56	700		734		16
4.	3	1.250	257	88.0	64	527		601		23
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.781	40.55	265.2	.9850	.9325	1.026	374
2.	9.781	65.79	267.2	.9896	.9325	1.028	610
3.	9.781	98.26	268.2	1.0039	.9325	1.031	928
4.	9.781	154.20	270.2	.9962	.9325	1.030	1443
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio None cf/bbl.

Gravity of Liquid Hydrocarbons deg.

F_c $(1-e^{-s})$

Specific Gravity Separator Gas **.690**

Specific Gravity Flowing Fluid

P_c **875.2** P_c^2 **766.0**

No.	P_w P_t (psia)	P_t^2	F_cQ	$(F_cQ)^2$	$\frac{(F_cQ)^2}{(1-e^{-s})}$	P_w^2	$P_c^2-P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.	851.2					724.5	41.5		.97
2.	821.2					674.4	91.6		.94
3.	747.2					558.3	207.7		.85
4.	614.2					377.2	388.8		.70
5.									

Absolute Potential: **2168** MCFPD; n **.60**

COMPANY **Gulf Oil Corporation**

ADDRESS **Box 2167, Hobbs, N.M.**

AGENT and TITLE Raymond Watson **Raymond Watson, Well Tester**

WITNESSED **None**

COMPANY

REMARKS

Fourth rate of flow was run for 23 hours and used to determine Slope N, because of repairs to gas gathering system resulting in all wells in pool being shut in.

INSTRUCTIONS

This form is to be used for reporting multi-point back pressure tests on gas wells in the State, except those on which special orders are applicable. Three copies of this form and the back pressure curve shall be filed with the Commission at Box 871, Santa Fe.

The log log paper used for plotting the back pressure curve shall be of at least three inch cycles.

NOMENCLATURE

Q = Actual rate of flow at end of flow period at W. H. working pressure (P_w). MCF/da. @ 15.025 psia and 60° F.

P_c = 72 hour wellhead shut-in casing (or tubing) pressure whichever is greater. psia

P_w = Static wellhead working pressure as determined at the end of flow period. (Casing if flowing thru tubing, tubing if flowing thru casing.) psia

P_t = Flowing wellhead pressure (tubing if flowing through tubing, casing if flowing through casing.) psia

P_f = Meter pressure, psia.

h_w = Differential meter pressure, inches water.

F_g = Gravity correction factor.

F_t = Flowing temperature correction factor.

F_{pv} = Supercompressability factor.

n = Slope of back pressure curve.

Note: If P_w cannot be taken because of manner of completion or condition of well, then P_w must be calculated by adding the pressure drop due to friction within the flow string to P_t.